EFFECT OF HOT CLIMATE ON SHEAR STRENGTH OF CONCRETE

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Abstract: Many construction projects are being carried out in countries known to have a hot climate during the major part of the year. High-temperature conditions create problems in preparation, placement, and curing of concrete and adversely affect the properties of concrete. Results are presented of tests on reinforced-concrete beams of different sizes prepared and cured at various temperatures; the tests were performed under both natural atmospheric conditions and controlled laboratory conditions. Tests have shown that even if the concrete mix is so designed to give the required compressive strength of concrete in high-temperature conditions, the shear strength of the concrete is still reduced by 7 to 20 percent in the temperature range of 90 to 113 degree F.